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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,472	09/28/2001	Stephane Martel	11759-US	2782

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EXAMINER

LATTIN, CHRISTOPHER W

ART UNIT	PAPER NUMBER
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2812

DATE MAILED: 02/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,472

Applicant(s)

MARTEL ET AL.

Examiner

Christopher W Lattin

Art Unit

2812

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) 3, 5, 7, 9, 10, 13, 14 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 2, 4, 6, 8, 11, 12, 15, 17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 4, 6, 8, 11, 12, 15, 17 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The repeated use of the term "a mask" in claim 1 renders the claims indefinite because it is unclear if applicant intends to that each mask be separate or if some of the claimed masks are one and the same. It is recognized that this word choice is in response the rejection made under § 112 in the final rejection made 6/17/2003, which rejected the claims because:

"depending on the steps that are omitted, the numbered masking steps are inconsistent. For instance, if step 4 is omitted, the claimed method requires that a third and fifth mask be formed without direct reference to a fourth mask. This renders the claim indefinite because it is then unclear is a fourth step is inferred when step four is omitted or if some other masking step is to be inferred or even if no mask is to be formed between the formation of the third and fifth masks."

This problem of differentiating between masks without using numbered masks arises because applicant sets forth specific steps and then affirmatively claims the possible of omission of certain steps. This is contrary to US practice, which requires that claims be definite even with respect to negative limitations:

The current view of the courts is that there is nothing inherently ambiguous or uncertain about a negative limitation. So long as the boundaries of the patent protection sought are set forth definitely, albeit negatively, the claim complies with the requirements of 35 U.S.C. 112, second paragraph. Some older cases were critical of negative limitations because they tended to define the invention in terms of what it was

not, rather than pointing out the invention. Thus, the court observed that the limitation "R is an alkenyl radical other than 2-butenyl and 2,4-pentadienyl" was a negative limitation that rendered the claim indefinite because it was an attempt to claim the invention by excluding what the inventors did not invent rather than distinctly and particularly pointing out what they did invent. In re Schechter, 205 F.2d 185, 98 USPQ 144 (CCPA 1953).

A claim which recited the limitation "said homopolymer being free from the proteins, soaps, resins, and sugars present in natural Hevea rubber" in order to exclude the characteristics of the prior art product, was considered definite because each recited limitation was definite. In re Wakefield, 422 F.2d 897, 899, 904, 164 USPQ 636, 638, 641 (CCPA 1970). In addition, the court found that the negative limitation "incapable of forming a dye with said oxidized developing agent" was definite because the boundaries of the patent protection sought were clear. In re Barr, 444 F.2d 588, 170 USPQ 330 (CCPA 1971).

See MPEP § 2173.05(i) entitled *Negative Limitations*. Claim 1 is indefinite because certain steps are enumerated, but then omission of those steps is permitted. Selection of all or only certain steps would vastly change the scope of the claims, which makes claimed method unclear.

Claims 1, 2, 4, 6, 8, 11, 12, 15, 17 and 20 are further rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: removing the masks. The term "using" can be interpreted to only include implanting through the mask.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 6, 8, 11, 12, 15, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williams et al. (U.S. Patent 5,541,125).

Williams et al. teach a process for making different types of devices in an integrated circuit, comprising: a) providing a substrate or epitaxial layer 42 of n-type material; and b) selecting a sequence of mask steps from a predefined set of mask steps selected from the group consisting of (1) applying a first mask and forming at least one P-well in said n-type material (see Figure 5A and B); (2) applying a second mask and forming an active region (see Figure 6A and B); (3) applying a third mask and forming a p - type field region (see Figure 9A and B); (5) applying a fifth mask and carrying out a n-type implantation (see Figure 10A and B); (6) applying a sixth mask and forming polysilicon gate regions (see Figure 11A and B); (7) applying a seventh mask and forming a n-base region (see Figure 13A and B); (8) applying an eighth mask and forming a P-extended region (see Figure 14A and B); (10) applying a tenth mask and carrying out an P+ implant (see Figure 15A and B); (11) applying an eleventh mask and carrying out a N+ implant (see Figure 16A and B); (12) applying a twelfth mask and forming contacts (see e.g. Figures 20 and 31); (13) applying a thirteenth mask and depositing a metal layer (see e.g. Figures 20 and 31); (14) applying a fourteenth mask and forming vias (see e.g. Figures 20 and 31); (15) applying a fifteenth mask and depositing a metal layer (see e.g. Figures 20 and 31); wherein said sequence consists of at least said mask steps 1 to 3, 5, 6, and 10 to 16 and at least one of said mask steps 4, 7, 8, and 9 depending on the type of integrated circuit; and performing said selected

sequence of mask steps in numerical order and teach that the p and n regions can be reversed, but fail to teach applying a sixteenth mask and forming a passivation layer. Official Notice is taken that it would have been obvious to one skilled in the art at the time of the invention to form a passivation layer to protect the devices.

Response to Arguments

Applicant's arguments filed 9/22/2003 have been fully considered but they are not persuasive. Applicant argues that Williams fails to teach the process claimed. As indicated above the method as claimed does not clearly set forth what applicant perceives as the invention. The arguments presented suggest that the selection of mask steps is what sets the presently claimed method above the cited art. This is not found to be persuasive evidence of patentability. Williams sets forth a method of forming all of the enumerated devices claimed in claim 1 of the present invention. Thus, the claimed method reads on the prior art cited. That enumerated steps of the claimed method *may* be omitted is of no consequence and does not render the claimed method patentable, because the *omission is not required*. Furthermore, given the disclosure of Williams one skilled in the art would recognize that steps could be omitted where one of the devices is not required.

Again it is noted that the claims are not limited to step selection, they merely permits it. This is problematic for at least two reasons. First, the enumeration and subsequent recognition of omission of process steps renders the claims unclear because one cannot ascertain which enumerated steps are included in the method.

See rejection under § 112, supra. Second, the claim does not require that a particular selection of a limited number of steps be made exclusive of the other steps. This is because the claim does not require step selection, as applicant argues. The claim merely focuses on which steps must be included and indicates that a selection of steps *can* be made. Such a selection could include all of the enumerated steps. Williams et al. teach all of the claimed steps. One skilled in the art at the time of the invention would have recognized that only certain of William steps could be selected when less than all of the devices need to be formed. Applicant's argument seems to suggest that one needing less than all of the enumerated steps would still perform all the masking steps and that the claimed method was inventive because it directed practitioners to omit unnecessary masking steps. This is not persuasive. It is simply obvious to omit masking steps for forming certain devices when those devices are not necessary for a given microelectronic system. Thus, the rejection is maintained as proper.


Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Lattin whose telephone number is (571) 272-1673. The examiner can normally be reached Monday through Friday from 8:00 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Niebling, can be reached at (571) 272-1679. The fax number for this Group is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0956.

CWL 
February 3, 2004


John F. Niebling
Supervisory Patent Examiner
Technology Center 2800